

Synology DS107 Series

User's Guide



Syno107Series_UG_20070124_enu

(Based on DS2.0 Ver. 2.0442)

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About this User's Guide

This user's guide covers all the functions of Synology DS107 Series server. Some of the functions may only be available on specific models. Please refer to product specification for details.

Getting to know your Synology Server

Introduction

Congratulations on your purchase of Synology DS107 Series server ("Synology Server"). Synology Server is specially designed for the following purposes:

Storing and Sharing Files via Internet

Windows users and Mac users can easily share files within Intranet or through Internet. Unicode language support makes sharing different language files from Synology Server smoothly.

PC Data and Server Data Backup

Synology Server provides various backup solutions to backup Synology Server data or backup PC data to Synology Server.

Transferring Data via FTP

Synology Server provides FTP service with bandwidth restriction and anonymous login. To transfer data safely, "FTP over SSL" or "FTP over TLS" is also available on advanced models.

Sharing Photos with Online Album Photo Station 2

"Photo Station 2" provides intuitive user interface to share your photos and videos online in a snap.

Enjoying Entertainment Data Stored on Server

"Download Station" allows you to download files from Internet through BitTorrent, FTP, and HTTP to Synology Server. Moreover, if you have UPnP DMA connected in the LAN, you can enable "Multimedia Service" and share the multimedia files on Synology server. If you just want to share and play mp3 files stored on Synology Server, you can enable "iTunes Service", and enjoy the music through any iTunes clients on LAN.

The build-in "Copy" button on the device allows instant copy of photos from the camera to Synology Server.

Programming your Own Web Site

Personal or corporate website can be easily setup using "Web Station" function. By integrating with PHP and MySQL, user can also set up blog or even online shop.

USB Printer Server

You can share USB 2.0 Printer through Local Area Network.

Specification

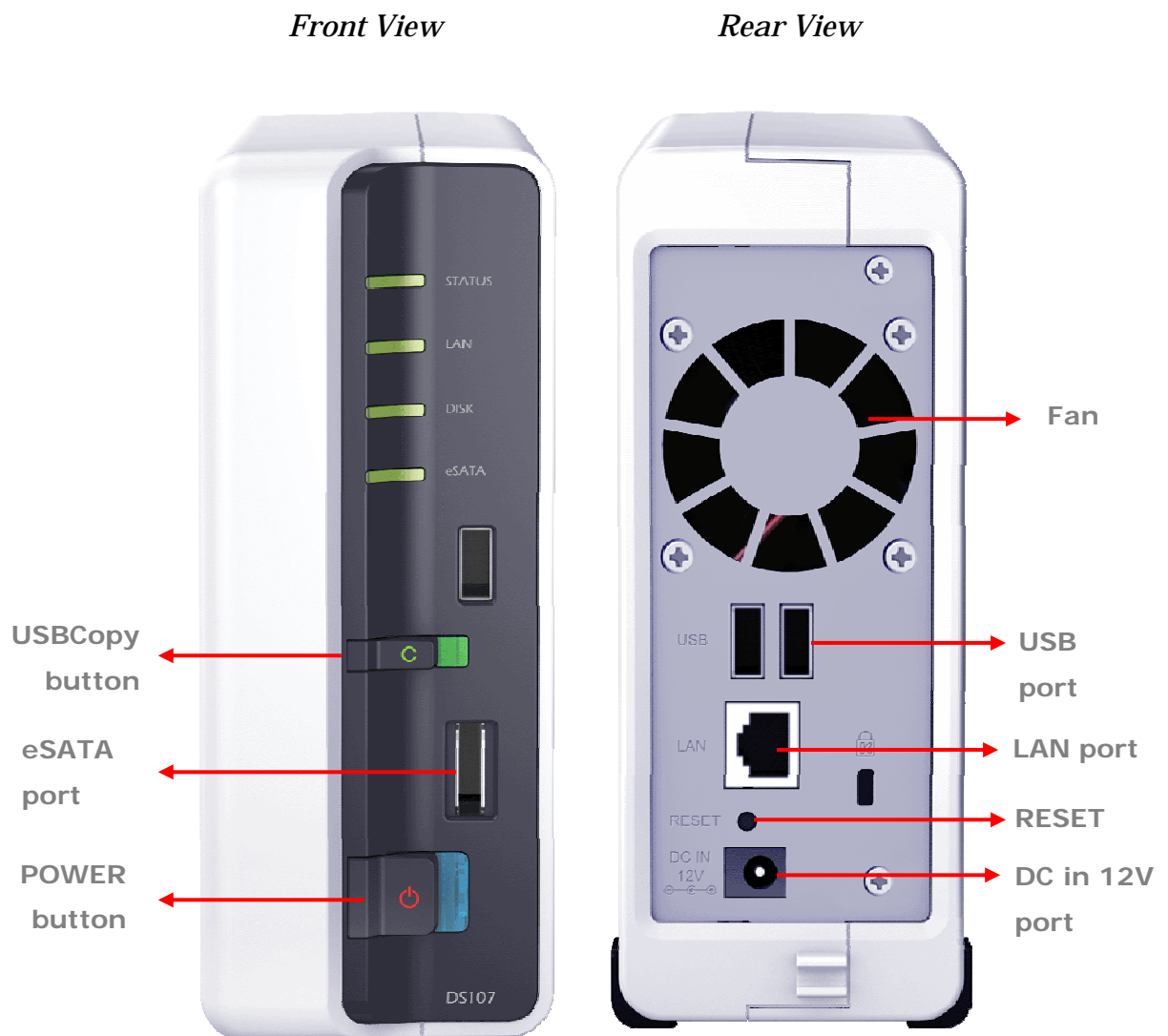
Item	DS107e	DS107	DS107+
Hard Disk Interface	SATA	SATA	SATA
Maximum Capacity	750GB	750GB	750GB
USB 2.0 Ports	*3	*3	*3
LAN Port	RJ-45 10/100/1000Mbps	RJ-45 10/100/1000Mbps	RJ-45 10/100/1000Mbps
USB Copy	Yes	Yes	Yes
Windows User	Windows 98 onward	Windows 98 onward	Windows 98 onward
Mac User	Mac OS 9 onward	Mac OS 9 onward	Mac OS 9 onward
Maximum User Accounts	128	128	128
Maximum Group Accounts	64	64	64
Maximum Shared Folder	100	100	100
Maximum Concurrent Connections	32	32	32
NTP	Yes	Yes	Yes
FTP	Yes	Yes(+SSL/TLS)	Yes(+SSL/TLS)
Windows ADS/NT4 Domain	No	Yes	Yes
Encrypted Network Backup	No	Yes	Yes
Language Localization	English, French, German, Korean, Italian, Spanish, Traditional Chinese, Simplified Chinese	English, French, German, Korean, Italian, Spanish, Traditional Chinese, Simplified Chinese	English, French, German, Korean, Italian, Spanish, Traditional Chinese, Simplified Chinese
eSATA Port	*1	*1	*1
HDD Hibernation	Yes	Yes	Yes
Event	Yes	Yes	Yes

Notification			
Agency Certifications	FCC Class B 、 CE 、BSMI	FCC Class B 、 CE 、BSMI	FCC Class B 、 CE 、BSMI
Dimension	16.0 X 21.8 X 6.3 cm	16.0 X 21.8 X 6.3 cm	16.0 X 21.8 X 6.3 cm
Weight	0.81 kg (excluding HDD)	0.81 kg (excluding HDD)	0.81 kg (excluding HDD)
Power Consumption And Environment Requirements	<u>Line voltage</u> 100V to 240V AC <u>Frequency</u> 50Hz to 60Hz <u>Operating Temperature</u> 50 to 95° F (10 to 35° C) <u>Storage Temperature</u> -40 to 185° F (-10 to 70° C) <u>Relative Humidity</u> 5% to 95% RH <u>Maximum Operating Altitude</u> 10,000 feet	<u>Line voltage</u> 100V to 240V AC <u>Frequency</u> 50Hz to 60Hz <u>Operating Temperature</u> 50 to 95° F (10 to 35° C) <u>Storage Temperature</u> -40 to 185° F (-10 to 70° C) <u>Relative Humidity</u> 5% to 95% RH <u>Maximum Operating Altitude</u> 10,000 feet	<u>Line voltage</u> 100V to 240V AC <u>Frequency</u> 50Hz to 60Hz <u>Operating Temperature</u> 50 to 95° F (10 to 35° C) <u>Storage Temperature</u> -40 to 185° F (-10 to 70° C) <u>Relative Humidity</u> 5% to 95% RH <u>Maximum Operating Altitude</u> 10,000 feet

Limitations

1. Supports up to 1 USB printer.
2. Supports up to 3 external USB disks.
3. USB Copy function only supports USB disks with FAT32 file system.
4. Some digital cameras are defined as a Still Image Device, such as Canon. For such devices, Synology Server only supports USB Copy function (No USB share function).
5. For Mac users, Synology Server supports only USB printers with PostScript.

Appearance



Article Name	Location	Description
Power Button	Front Panel	The Power Button is used to turn the Synology Server On or Off. To turn Off Synology Server, press the Power Button and hold it until you hear a "beep" sound and the Power LED starts blinking.
COPY Button	Front Panel	The COPY Button lights up when you connect a USB Device (for example: digital camera, USB flash disk). Pressing the button will copy the data from the connected USB device to the Synology Server's internal HDD.
USB Port	Front Panel	The Synology Server offers 3 USB ports for adding additional external hard drives, USB printers, or other USB devices. One at the front, and other two at the back.

Smart Fan Ventilation	Front Panel	The fan is to exhaust waste heat out of Synology Server. It will start automatically when the server starts. If the fan is malfunctioning, system will "beep" every 1 second.
eSATA Port	Back Panel	The eSATA port is for connecting with an external SATA HDD.
RESET Button	Back Panel	<ol style="list-style-type: none"> 1. To restore IP, DNS, passwords for the "admin" account to default value, and reset the "guest" account to the "enabled" status. (Please refer to "Resetting Administrator Password" chapter.) 2. To reinstall the Synology Server. (Please refer to "Reinstalling Synology Server" chapter.)
LAN Port	Back Panel	The LAN port is where you connect RJ-45 cable to Synology Server.
DC IN 12V Port	Back Panel	The DC IN 12V Port is where you connect the AC Power Adapter.

LED Indication Descriptions Table

LED Indication	Color	Status	Description
Status	Green/Orange	Solid Green Light	Volume normal
		Solid Orange Light	Available volume space < 1GB
		Blinking Orange Light	<ul style="list-style-type: none"> • Volume degraded or crashed • No Volume
LAN	Green	Solid	Network is up
		Blinking	Network is active
		Light Off	Network is down
DISK/ eSATA	Green	Solid	Disk ready
		Blinking	Disk is being accessed
		Off	No internal disk
	Orange	Blinking	Cannot Read/Write
USBCopy	Green	Solid	Detected USB disk
		Blinking	Copying data
		Off	No USB disk
Power	Blue	Solid	System ready
		Blinking	<ul style="list-style-type: none"> • System is booting • System is shutting down
		Off	Power off

Managing Synology Server

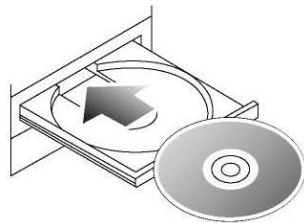
Entering Web Management UI

System administrator can manage the Synology Server by entering the web management UI. There are two options for you to enter the management UI:

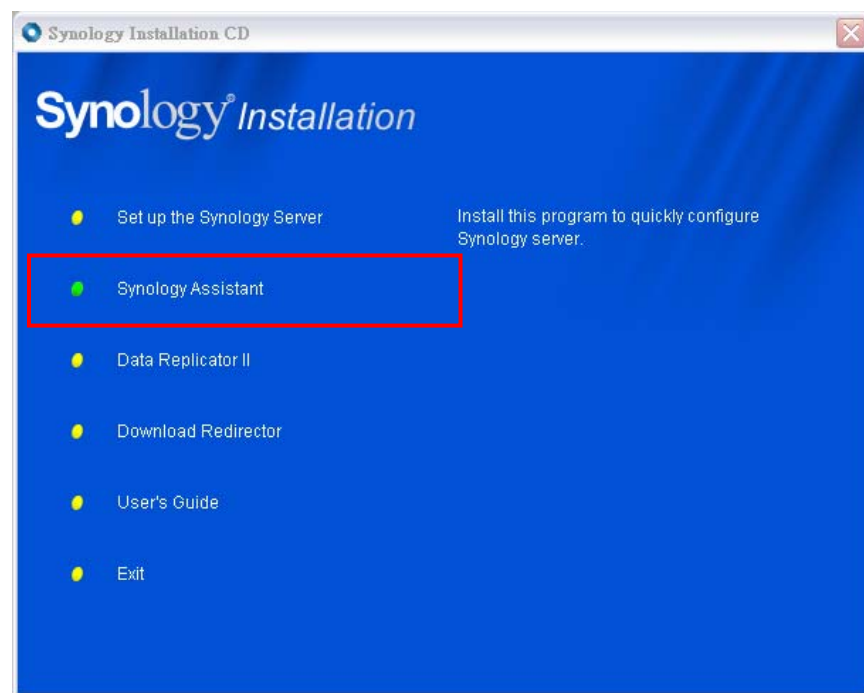
Using Setup Utility

[Windows User]

1. Insert the Installation CD into CD/DVD-Rom Drive.



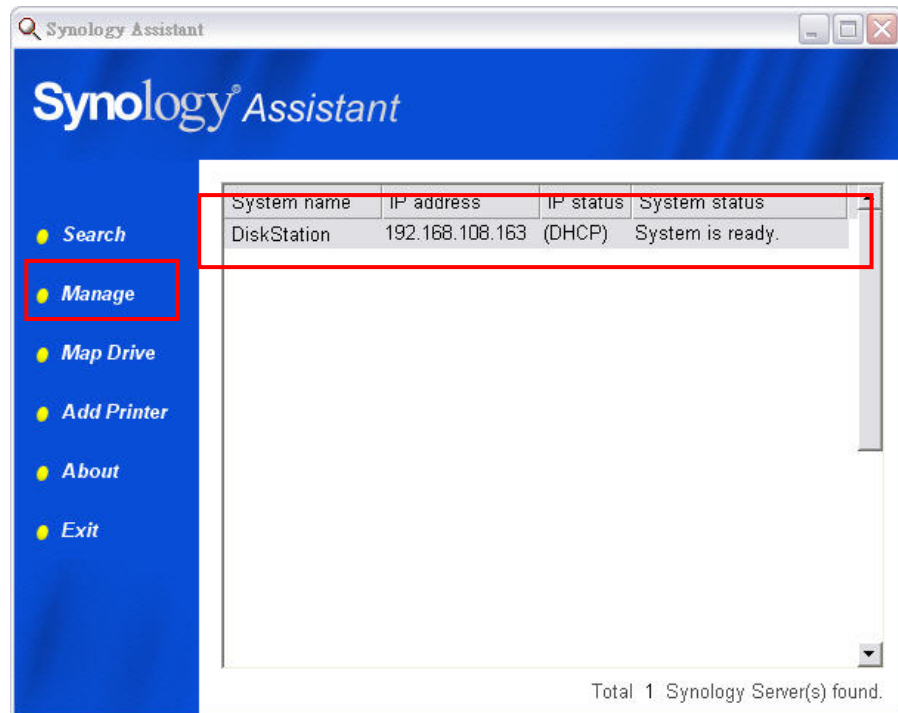
2. Choose "Synology Assistant" at the Autoup Menu.



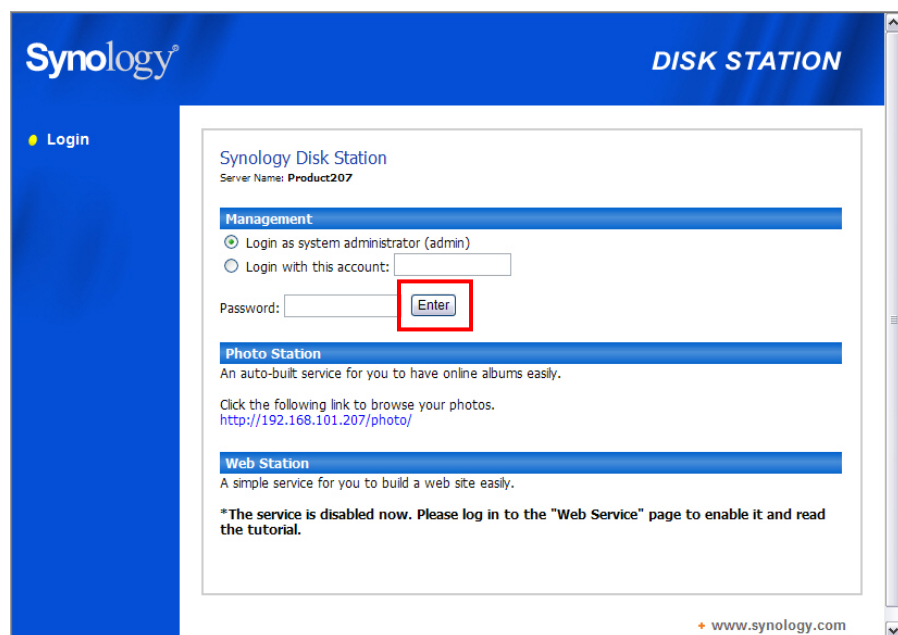
3. Follow the steps to complete installation.
4. After installation, double click on the desktop icon to execute the program.



5. Choose the server you want to manage and click “Manage” to enter the Web Management UI.



6. Choose “login as system administrator (admin)”, input password and click “Enter”.



[Mac OSX User]

1. Insert the Installation CD into CD/DVD-Rom Drive.

2. Double-Click CD-Rom Drive thumbnail.
3. Double-Click "MacOSX" thumbnail.
4. Double-Click "Synology Assistant-SYNOLOGY.dmg" thumbnail.
5. Double-Click "Synology Assistant" thumbnail to run setup wizard.
6. Choose a Synology Server and click "Manage" to enter the Web Management UI.
7. Choose "login as system administrator (admin)", input password and click "Enter".

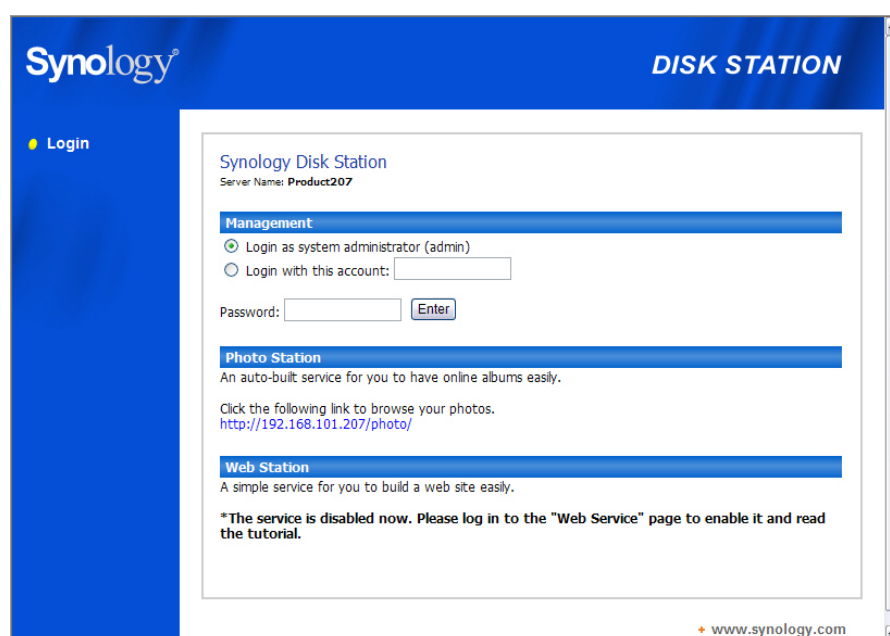
Please note:

To ensure flawless management process, please use the following browsers:

Client	Browser
PC	IE 6.0 onward
Mac OS X 10.3.x	Safari 1.3 onward
Mac OS X 10.4.x	Safari 2.0 onward

Accessing Web Management UI Manually

1. Open a web browser window.
2. At the address line input "http://Synology_Server_Name:5000/", where "Synology_Server_Name" should be replaced with the name you set up for Synology Server during the setup process.



3. Press "Enter" key on the keyboard.
4. Choose "login as system administrator (admin)".
5. Input password for admin.
6. Click "Enter" to access Web Management UI.

Managing Synology Server

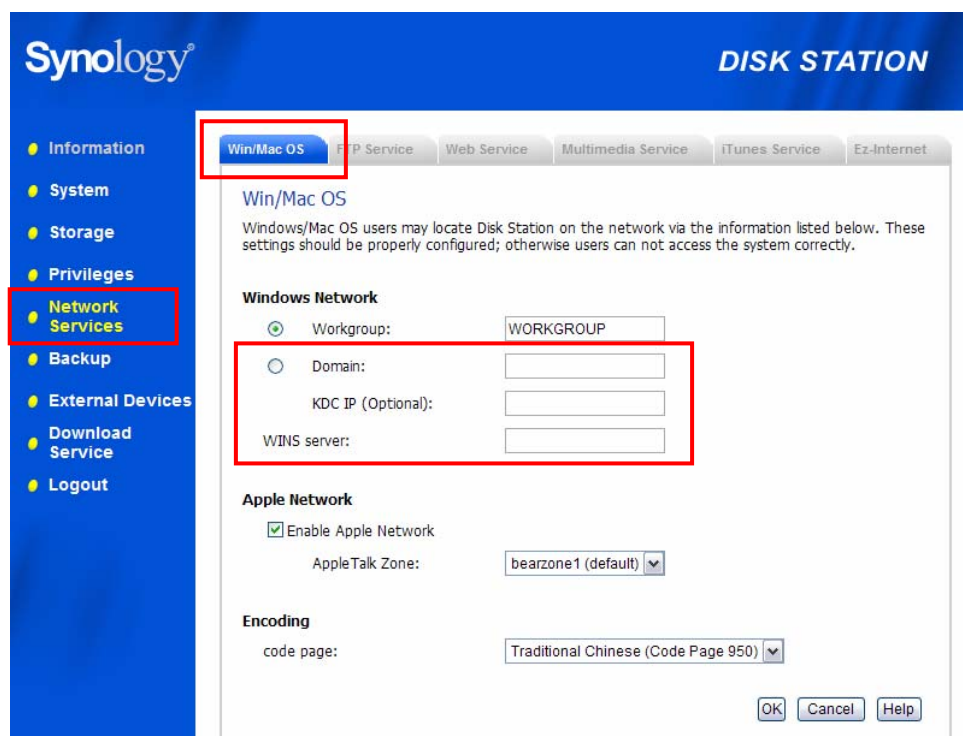
You can start managing Synology Server in Web Management UI. Synology Server Web Management UI provides distinctive and straight forward design for easy management. You will find an online “Help” button on every page of the Web Management UI. Click on the “Help” button for further information whenever you encounter any problem.



Joining Windows Domain

You can add Synology Server to Windows domain and let the domain users access Synology Server. Synology Server supports both Active Directory Service (ADS) and NT4 domain. After being added to a Windows domain, the domain users only need to enter their domain account and password when trying to access the Synology Server. If the authentication succeeds, access will be granted.

For the detailed description, please refer to Help on “Network Services > Win/Mac OS” page.



Assigning Access Right for Domain Users

After adding Synology Server to a Windows domain, you can grant domain users' access rights to the shared folders on Synology server. Afterward, you will see domain users on the User page. Please refer to the “Accessing Synology Server Data > Setting Access Control” section for details.

Resetting Administrator Password

Pressing the “RESET” button and hold it for about 4 seconds before you heard a beep sound will restore IP, DNS, passwords for the “admin” account to default value, and reset the “guest” account to the “enabled” status. The default password of the “admin” account is blank.

Reinstalling Synology Server

If for any reason you have to reinstall the Synology Server, you can press the RESET button on the back panel twice, and the Synology Server will be reinstalled. The data saved on the Synology Server will not be erased during the reinstallation. However, for security’s reason, we strongly recommend that you back up the data on the server.

To reinstall the server:

1. Press the “RESET” button and hold it for about 4 seconds. Release the button when the Synology Server emits a beep sound.
2. Within the next 10 seconds, press the “RESET” button and hold it for about 4 seconds again. Release the button when the Synology Server emits a beep sound.
3. Run Synology Assistant, and set up the Synology Server again.

Note: The version of Synology Assistant should be identical to the version of the firmware patch file you install.

Accessing Synology Server Data

File sharing service is one of the Synology Server's major functions. Administrator can setup access rights for users either with Windows or Mac to access shared folders.

Shared Folders

System Built-in

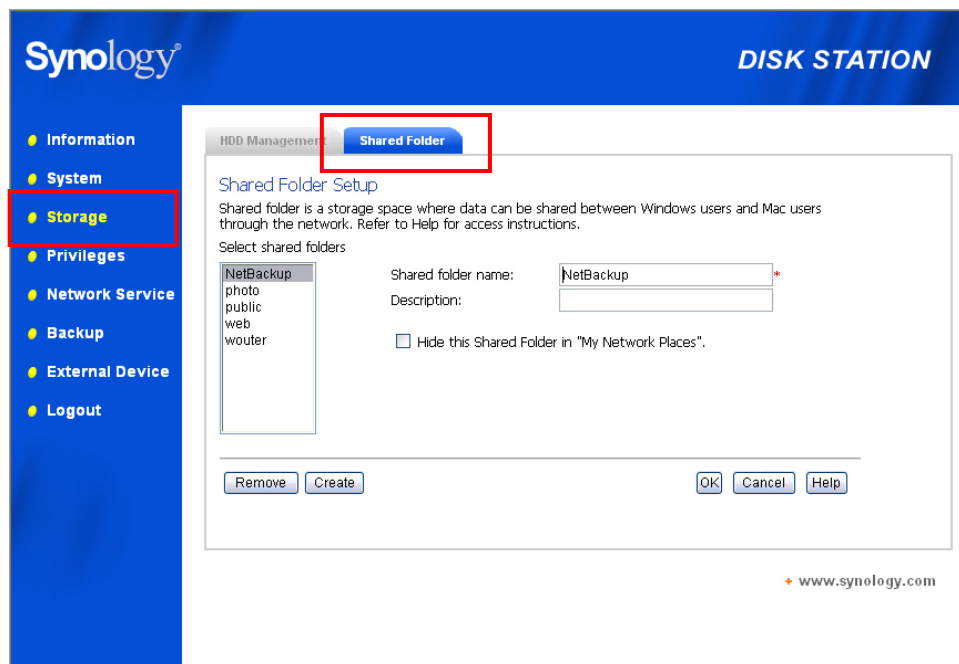
Below are system built-in shared folders. Administrator can delete them later after setup.

Name	Description
public	After Synology Server is successfully set up, the shared folder "public" will be available for access instantly.
web	The shared folder "web" is for storing web pages. When Web Station is enabled, users can browse the constructed website through browser. For detailed information, please refer to "Extra Features > Web Station" section.
photo	The shared folder "photo" is for storing image files. Files in "photo" shared folder can be browsed when Photo Station or Multimedia Service is enabled. For detailed information, please refer to descriptions of Photo Station and Multimedia Service.
music	Music files in "music" shared folder can be browsed through UPnP DMA when Multimedia Service is enabled. For detailed information, please refer to descriptions of Multimedia Service and iTunes Service. When iTunes Service is enabled, users can play music files stored on Synology Server with any iTunes clients on the same subnet. For the detailed information and its limitation, please refer to Help on "Network Services > iTunes Service" page of the Web Management UI.
video	Video files in "video" shared folder can be browsed through UPnP DMA when Multimedia Service is enabled. For detailed information, please refer to the page "Network Services > Multimedia Service."
NetBackup	The shared folder "NetBackup" is for saving backed up files using Network Backup. Please refer to the page "Backup > Network Backup."
usbshare	After you connect external USB HDD to Synology Server's USB port, system will automatically create a shared folder with the prefix "usbshare". Refer to "Expanding HDD Capacity > External HDD" section for details.

Name	Description
satashare	After you connect external SATA HDD to Synology Server's eSATA port, system will automatically create "satashare" shared folder. Refer to "Expanding HDD Capacity > External HDD" section for details.

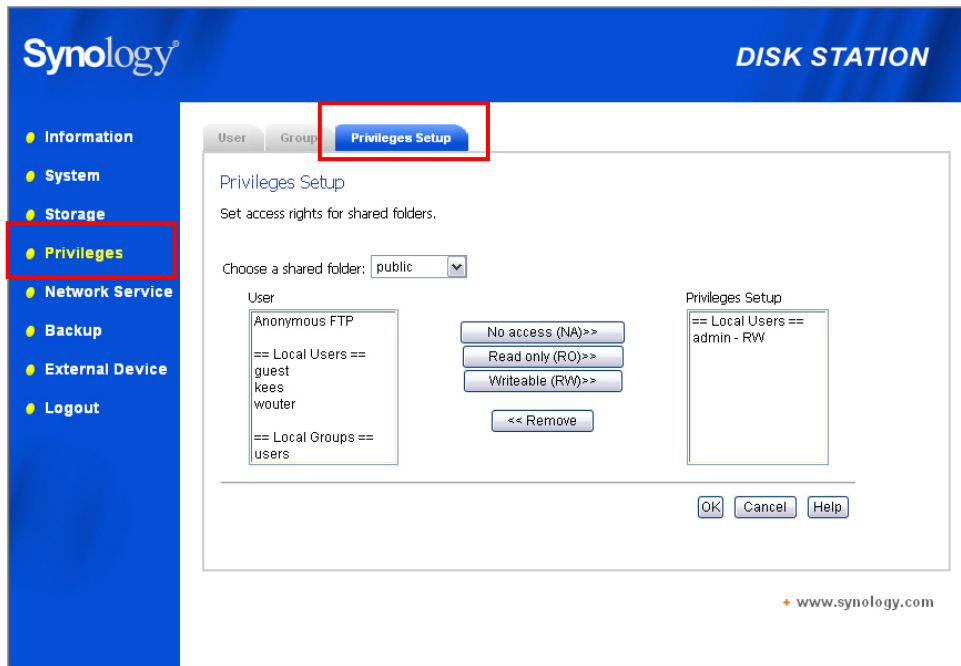
Administrator-Created

Apart from the above system built-in shared folders, Administrator can create shared folders on the page "Storage > Shared Folder" of the Web Management UI. Shared folders created by Administrator can be deleted or renamed at any time.



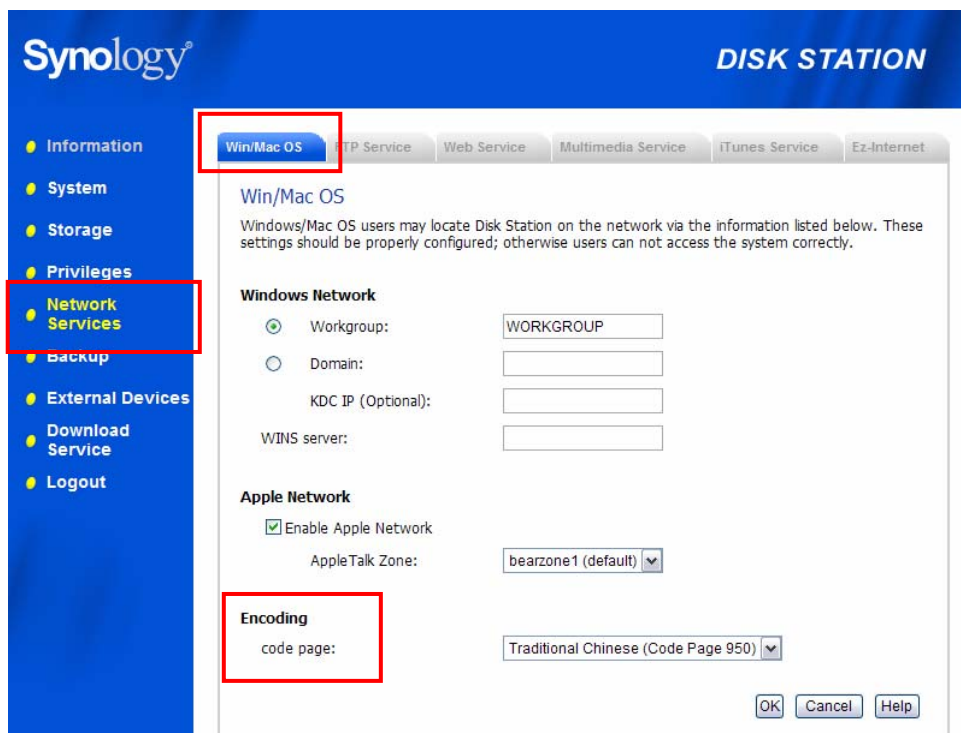
Setting Access Control

For security reasons, Administrator can go to the page "Privileges > Privileges Setup" of the Web Management UI and set access rights for different users by selecting the shared folder.



Setting Encoding

Synology Server uses Unicode to manage files. The benefit of using Unicode is to avoid file inaccessibility between users who use different languages. However, for users without Unicode support on their PC, Administrator can set the encoding method of the files to overcome the problem. Please go to the page "Network Services > Win/Mac OS" of the Web Management UI for the setting.



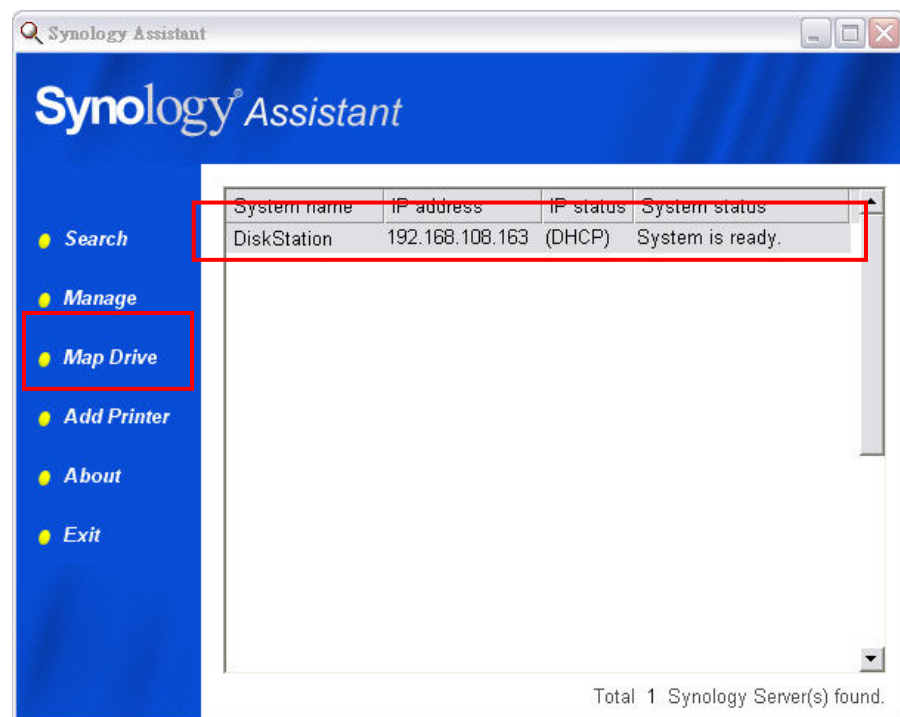
Accessing Shared Folders

Windows User

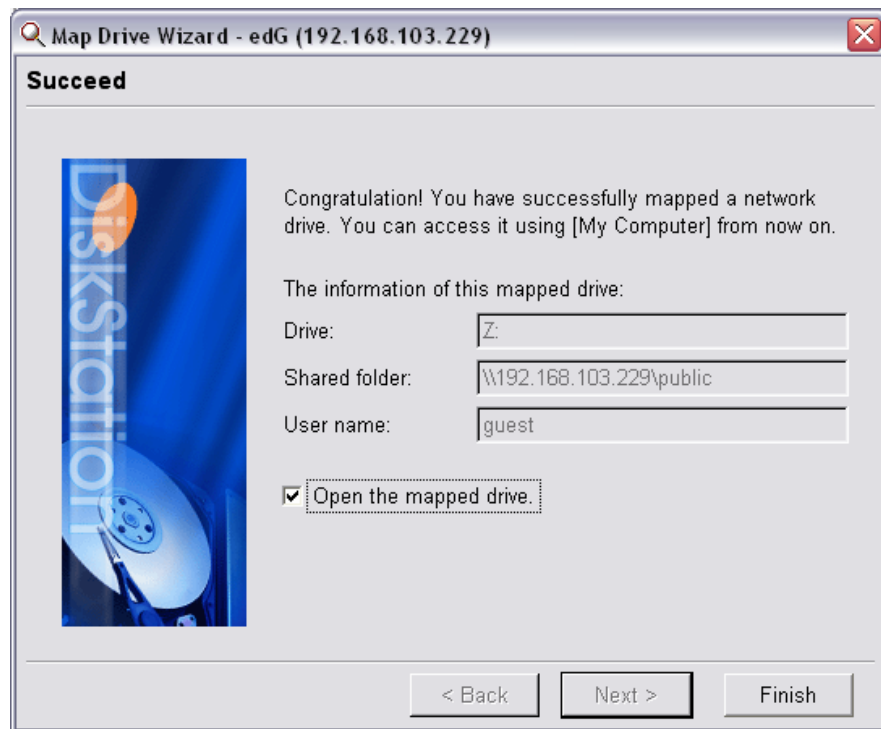
Windows users can access the Synology Server's shared folders by using Setup Utility to map Network Drive

Synology Assistant, which is included in the Installation CD, not only helps Administrator manage Synology Server, but also provides users with the following steps to map Network Drive:

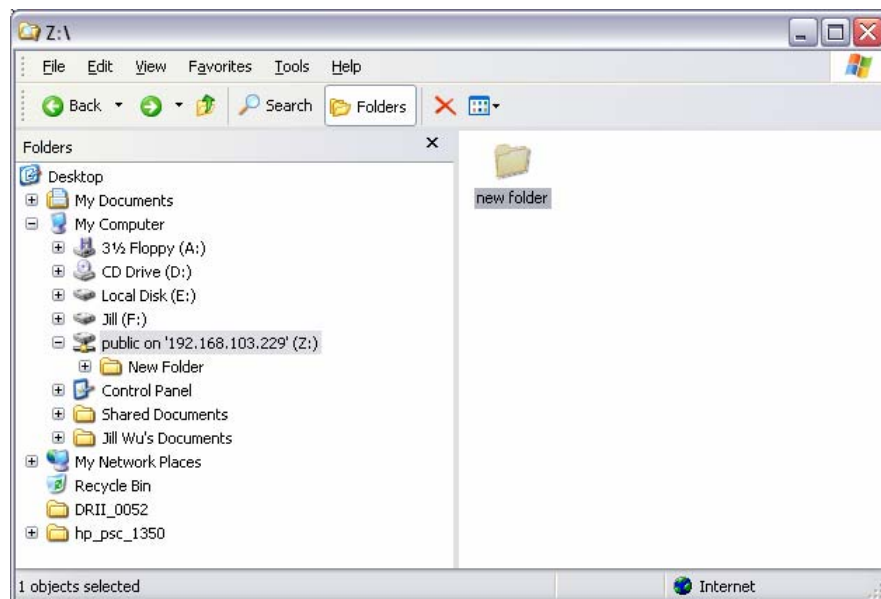
1. Run Synology Assistant.
2. Choose the server to map network drive.
3. Click on the "Map Drive" button on the left.



4. Follow the on-screen steps to finish the setup.

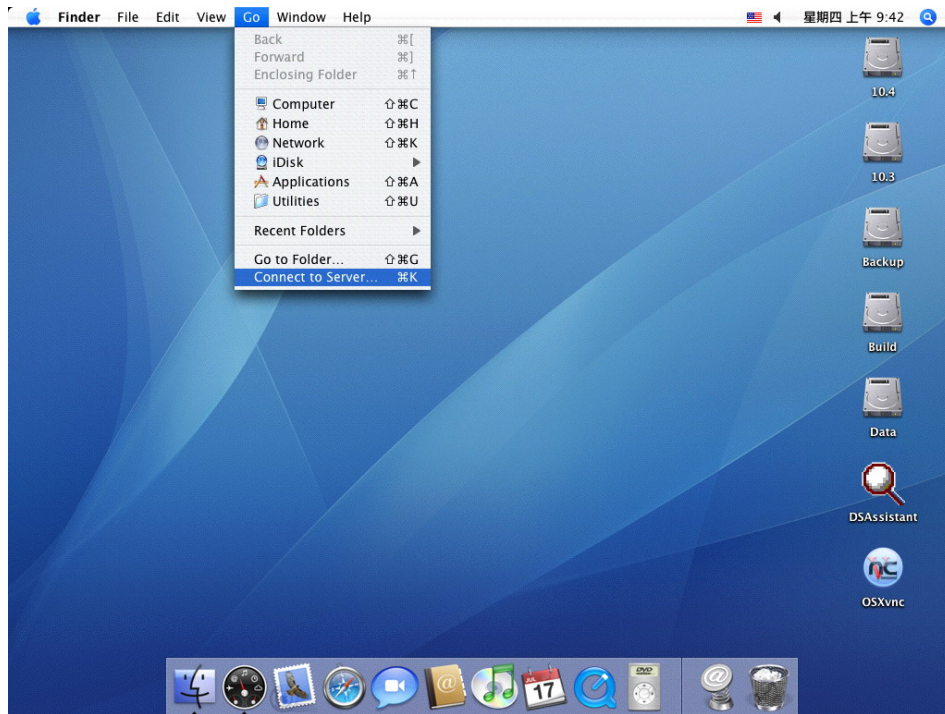


5. Upon completion, user can access the mapped shared folder in Windows Explorer.



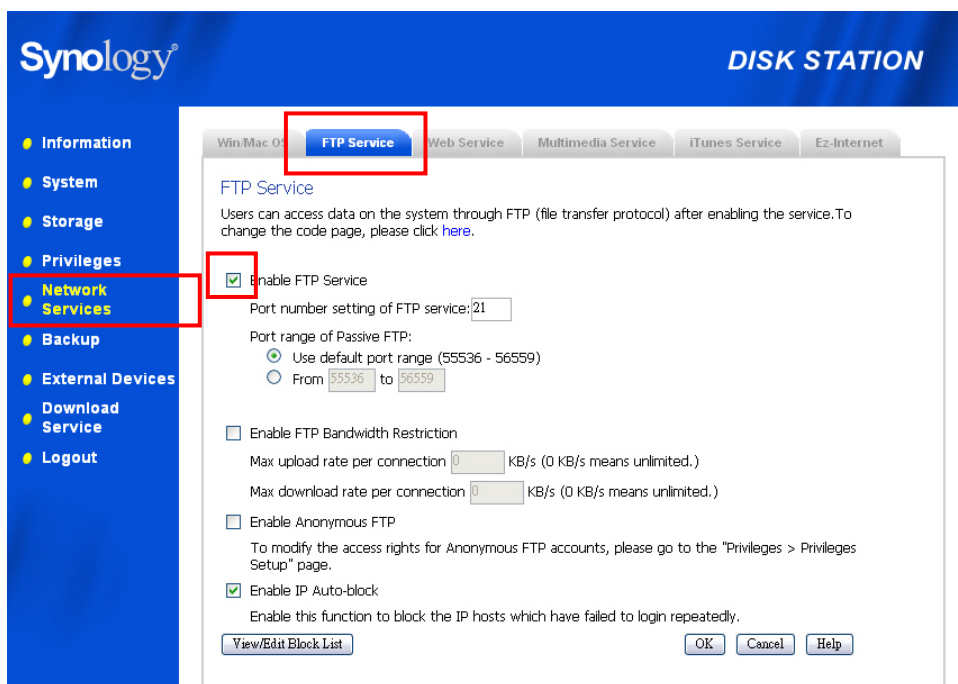
Mac User

Mac user can use "Go > Connect to Server" to choose a Synology Server and access the shared folder on the server.



Through FTP

Synology server provides FTP service. Administrator can enable FTP service on the “Network Service > FTP Service” page of the Web Management UI. Windows users and Mac users can thus access data in Synology Server by FTP Protocol. Synology server supports Secure FTP by default when administrator enables the FTP service. To prevent data from being access while transferring, users can also use “FTP over SSL” or “FTP over TLS” on the FTP client to make the data more secure. For the detailed information of using FTP and its limitation, please refer to Help on “Network Services > FTP Service” page.



Please Note:

1. Administrator has the option to adjust FTP Bandwidth or enable Anonymous login.
2. FTP Service does not support Unicode. Before enabling FTP Service, please go to "Network Services > Win/Mac OS" page and setup codepage according to user's client PC.

Server Backup and PC Backup Solutions

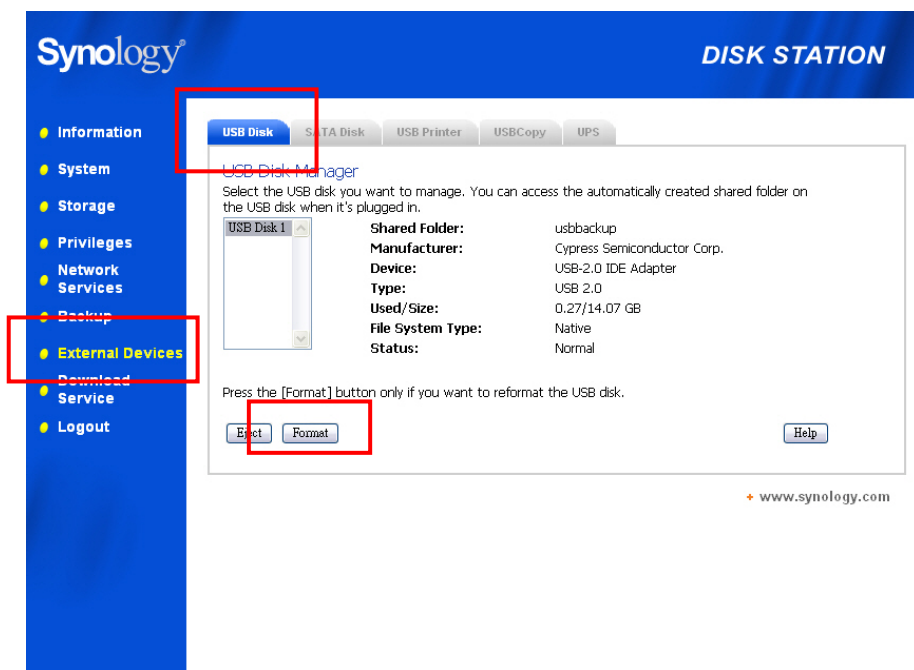
Synology Server provides complete backup solutions:

1. By using “Local Backup”, Administrator can back up Synology Server’s data to external USB or SATA HDD.
2. By using “Network Backup”, Administrator can back up Synology Server’s data to another Synology Server.
3. By installing Synology Data Replicator II software on the client PC, Windows users can back up data from PC to Synology Server.
4. Administrator can also back up Synology Server’s User, Group, and Shared folders (see details below).

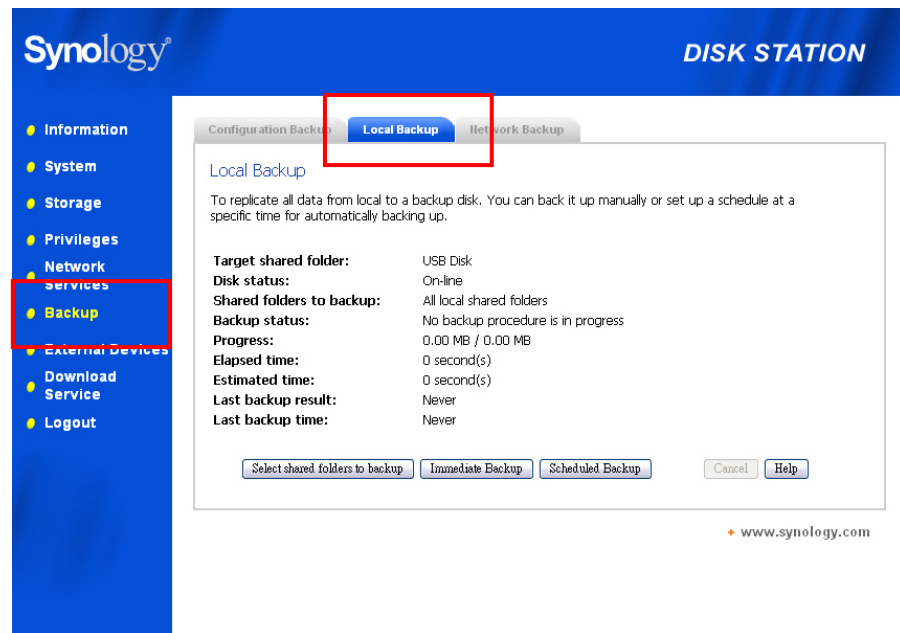
Local Backup

Please follow the below steps to perform Local Backup:

1. Connect an external USB HDD or SATA HDD to the corresponding port on Synology Server.
2. Go to the page “External Devices > USB Disk” or “External Devices > eSATA Disk” of the Web Management UI, and format the HDD as “backup purpose”.

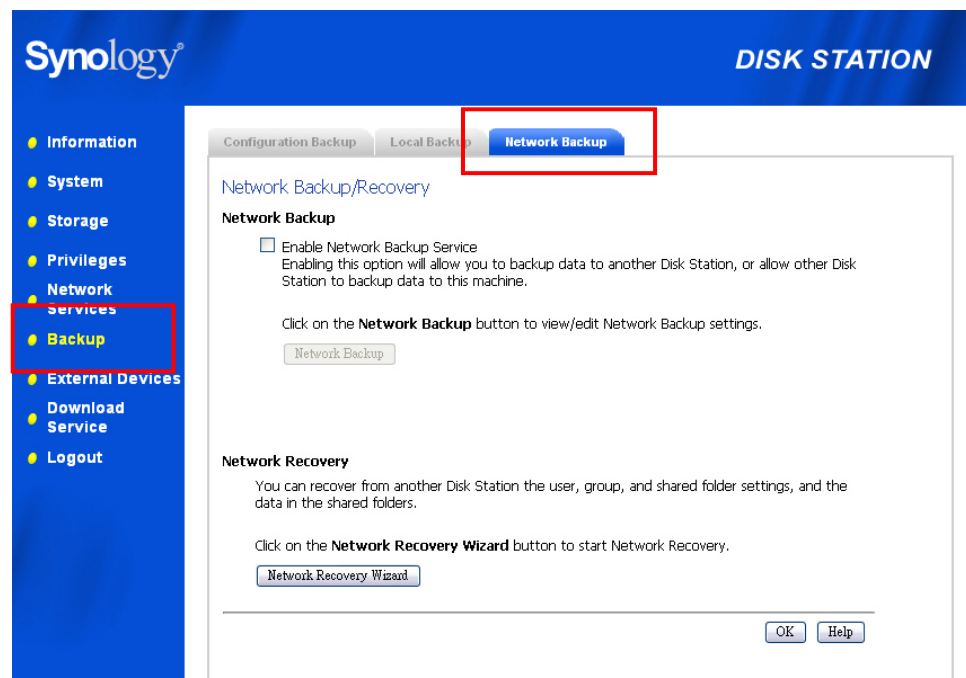


3. Go to the page “Backup > Local Backup” to set up your backup task.



Network Backup

Network Backup allows Administrator to back up Synology Server's data to another Synology Server through network. Please ensure Network Backup option is enabled on both Target and Client Server before performing the task. Go to "Backup > Network Backup" page for detail information.



Backing up Personal Data

Windows users can install “Synology Data Replicator II” backup software which can be found on the installation CD. They can back up client PC data to Synology Server to maintain a good copy of data whenever needed.

Using Synology Data Replicator II, users can:

1. Monitor selected folders on client PC and perform real-time backup when any modification to the file is made.
2. Adjust backup versions and restore points.
3. Restore backup data on Synology Server to client PC at user's preference.

Before starting

Before using Synology Data Replicator II, please ensure:

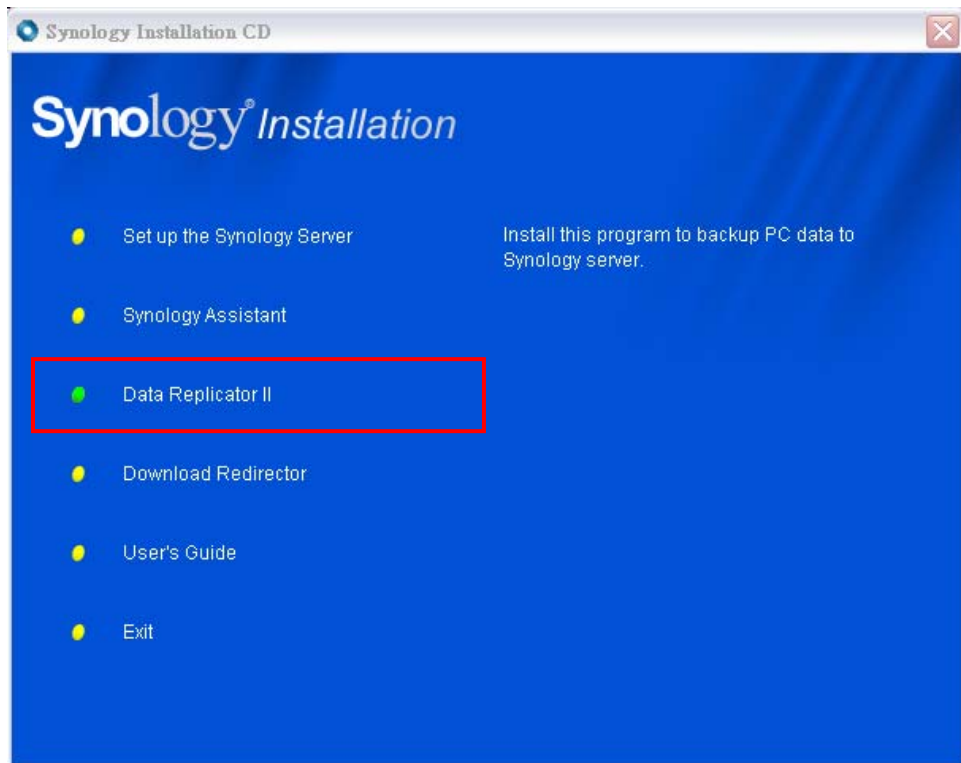
1. Client PC and Synology Server uses the same encoding for backup to perform adequately.
2. Synology Data Replicator II is the next generation of Synology Data Replicator. It can only restore backup data on Synology Server generated by itself. If users have backed up data on Synology Server using Synology Data Replicator, we recommend restoring data on Synology Server to PC first before using Synology Data Replicator II.

Minimum System Requirement

1. Free HDD Space: 5MB
2. Operating System: Windows 98/ME/2000/XP
3. Best Screen Resolution: 1024*768 and above
4. Microsoft Networking over TCP/IP enabled and has network connection with Synology Server.

Installing Synology Data Replicator II

Insert Installation CD into Windows user CD/DVD-Rom drive. Click on “Synology Data Replicator II”, and follow on-screen instructions.



Using Synology Data Replicator II

After installation, double click on the software icon to execute the program. Click on “Help” for detail description.

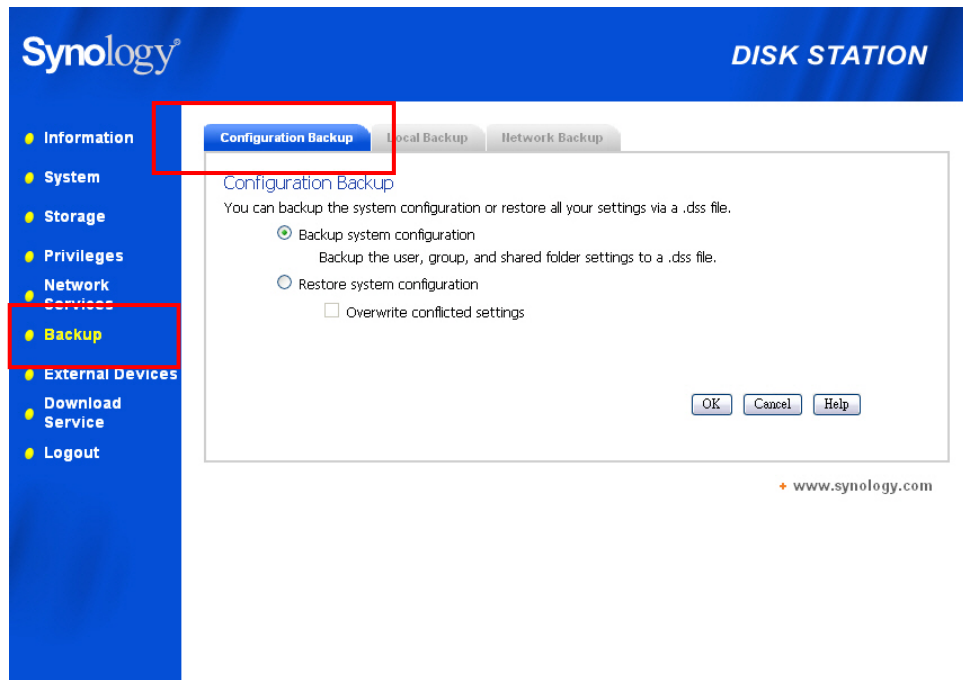


Backing up Synology Server Settings

There are two options for you to backup Synology Server’s “User”, “Group”, “Shared Folder” settings for easy maintenance and restoration.

Synology Server to PC Client

Go to the page “Backup > Configuration Backup” of the Web Management UI to back up settings from Synology Server to PC Client.

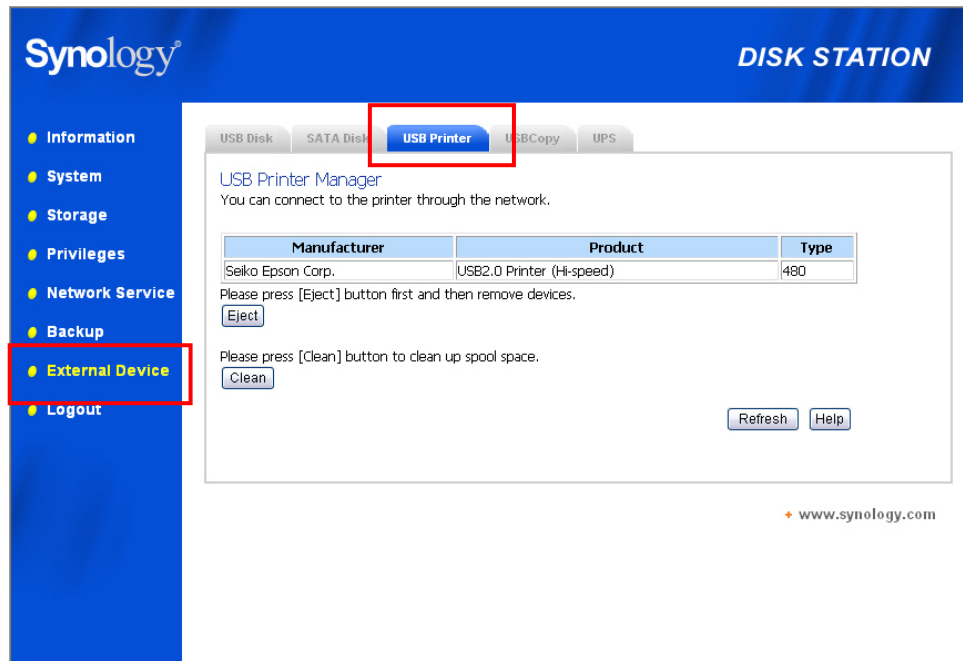


Synology Server to another Synology Server

The data backed up to another Synology Server using "Network Backup" automatically includes the "User", "Group", "Shared Folder" settings. When you recover the data, you can choose if you want to recover these settings.

Sharing USB Printer

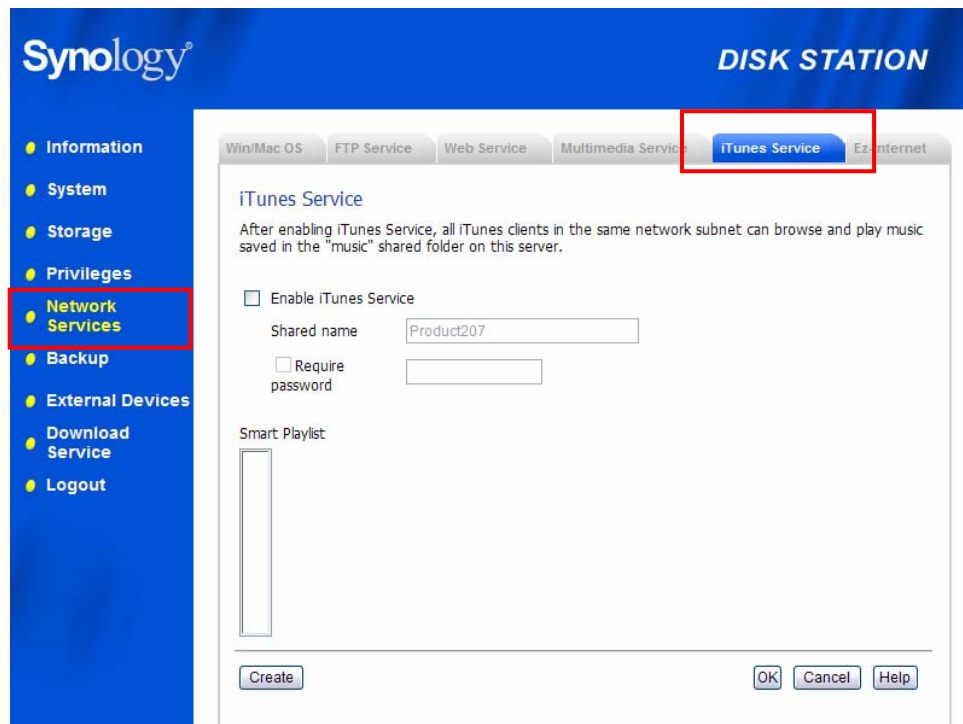
Synology Server supports Windows 98 and above users, and Mac OS 9 and above users to share USB Printer. For the detailed settings on different platforms, please refer to the page “External Devices > USB Printer” of the Web Management UI.



Extra Features

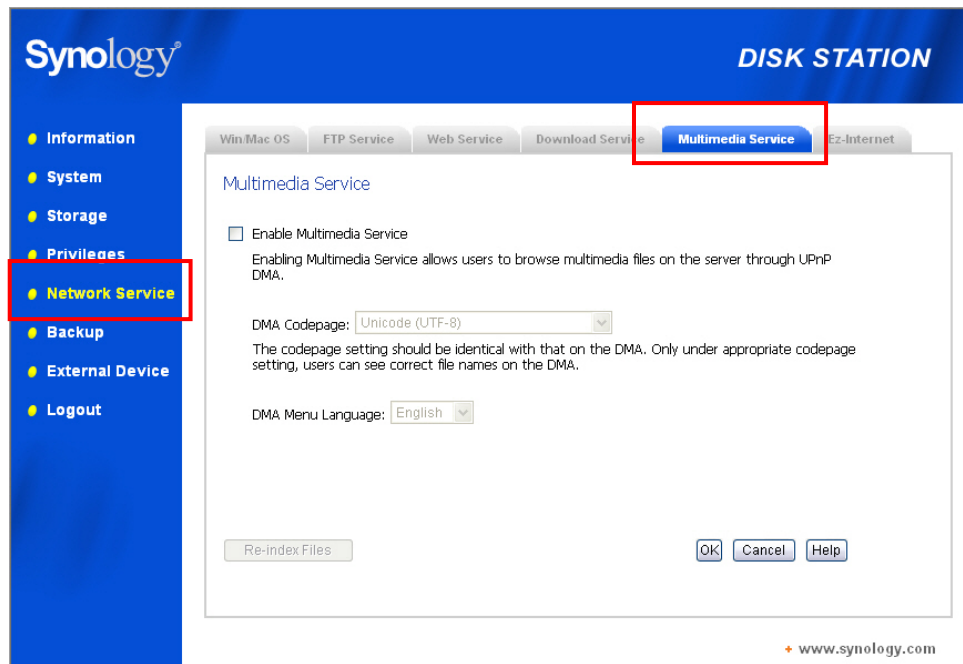
iTunes Service

When “iTunes Service” is enabled, users can play music files stored on Synology Server with any iTunes clients on the same subnet. For the detailed information and its limitation, please refer to Help on “Network Services > iTunes Service” page of the Web Management UI.



Multimedia Service

When “Multimedia Service” is enabled, users who have UPnP DMA (Digital Media Adapter) can browse multimedia files on Synology server. Please go to “Network Services > Multimedia Service” page for further setup.



Download Station

Synology server can download files from Internet through BitTorrent, FTP, and HTTP. PC users and Mac users can either install Download Redirector or go to the “Download Service” section of the Web Management UI to add download tasks and manage the download queue.

Before start adding download tasks, you should enable Download Station on the server and install Download Redirector on PC or Mac.

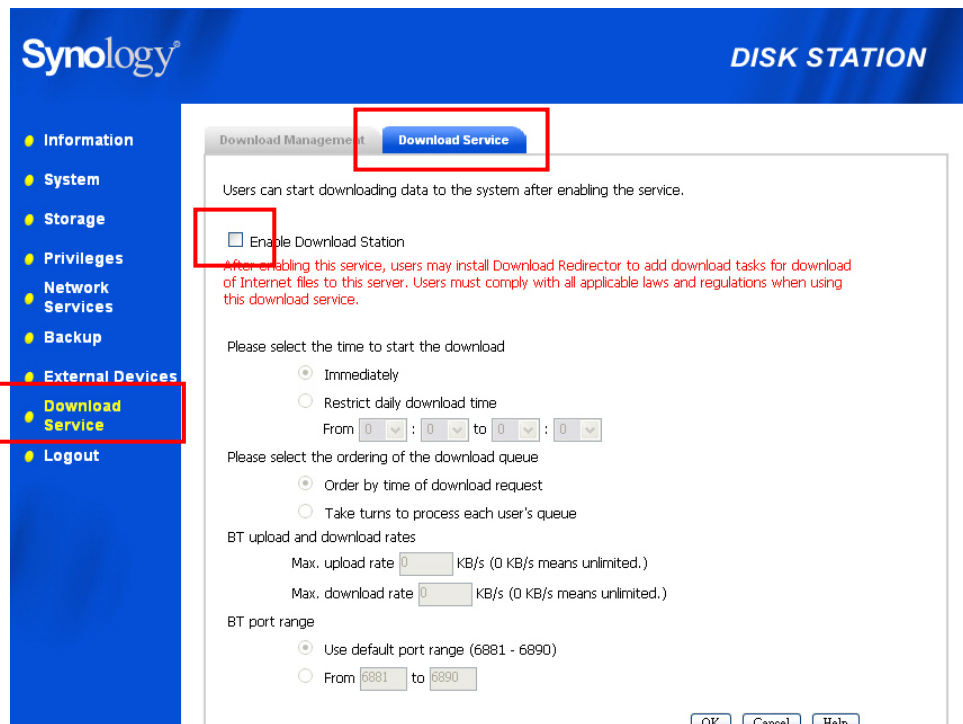
Enabling Download Station

Go to the “Download Service > Download Service” page.

Installing Download Redirector

Insert Installation CD into the CD/DVD-Rom drive. Click on “Download Redirector”, and follow on-screen instructions to complete installation.

For the detailed description of Download Redirector, please refer to Help on Download Redirector program window, or hit Help on “Download Service > Download Management” page of the Web Management UI.



Web Station

Personal or corporate website can be easily setup using “Web Station.” By integrating with PHP and MySQL, users can also setup online shop. PHP support is turned on by default, MySQL requires manually enabling.

Enabling Web Station and MySQL

Go to the “Network Services > Web Service” page.

Web Station’s detail description

Please click on “Read Tutorial” link under “Enable Web Station”.

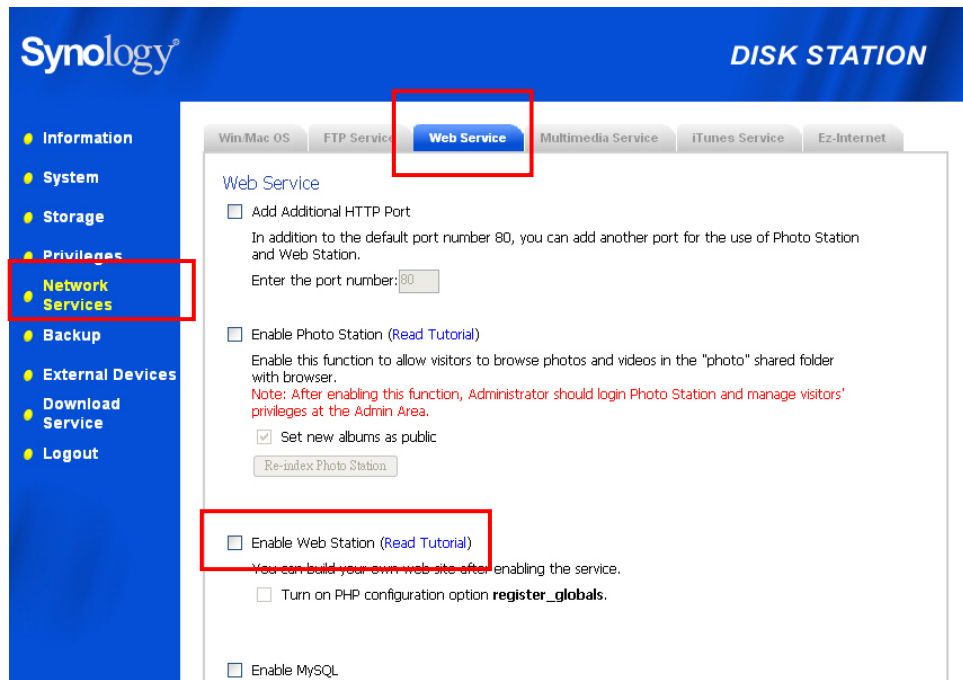


Photo Station 2

The all new “Photo Station 2” is stylish and even easier and faster. Administrator can not only set up album cover, but also enter descriptions of albums and photos, and choose whether to allow visitors’ comments. Moreover, access right control can be set up to control privacy.

Enabling Photo Station

Go to the “Network Services > Web Service” page.

Photo Station’s detail description

Please click on “Read Tutorial” link under “Enable Photo Station”.

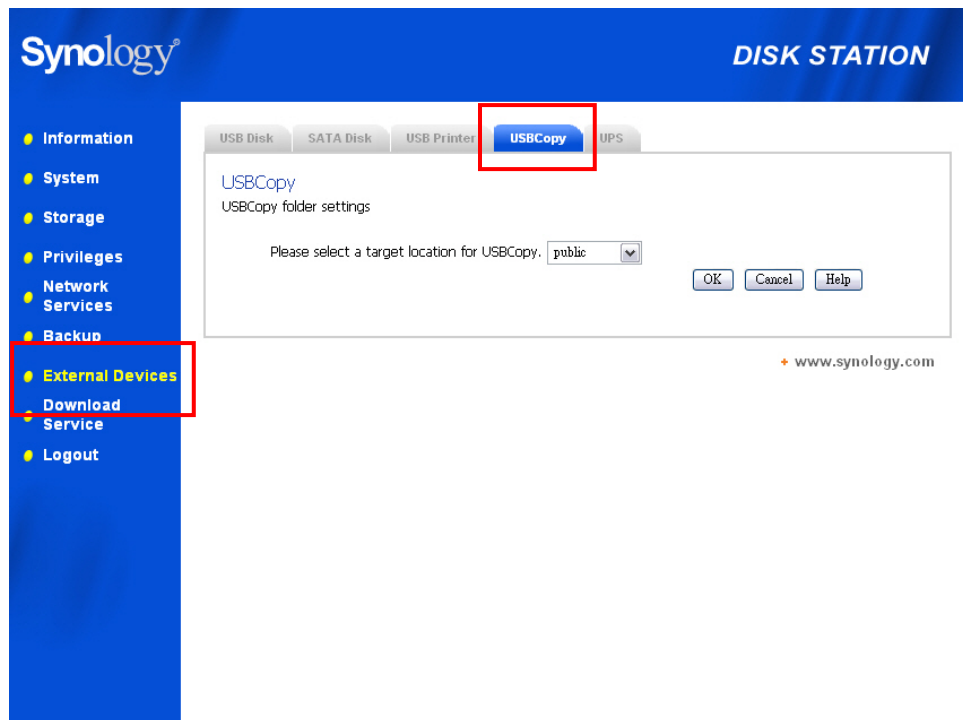


USBCopy

When a USB Device is connected to the USB port at the front panel, by pressing the “COPY” button all the data in the USB Device will be copied to Synology Server’s internal HDD.

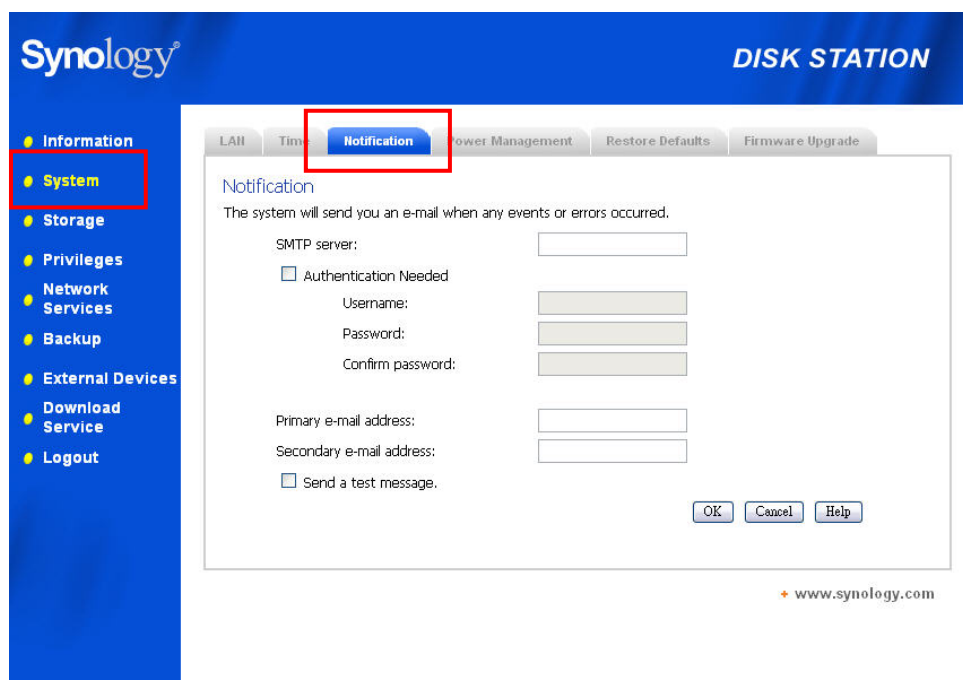
Setting USBCopy Target Location

You can setup USBCopy target location on the “External Devices > USBCopy” page of the Web Management UI. When pressing the “Copy” button from now on, data will be copied to the target location.



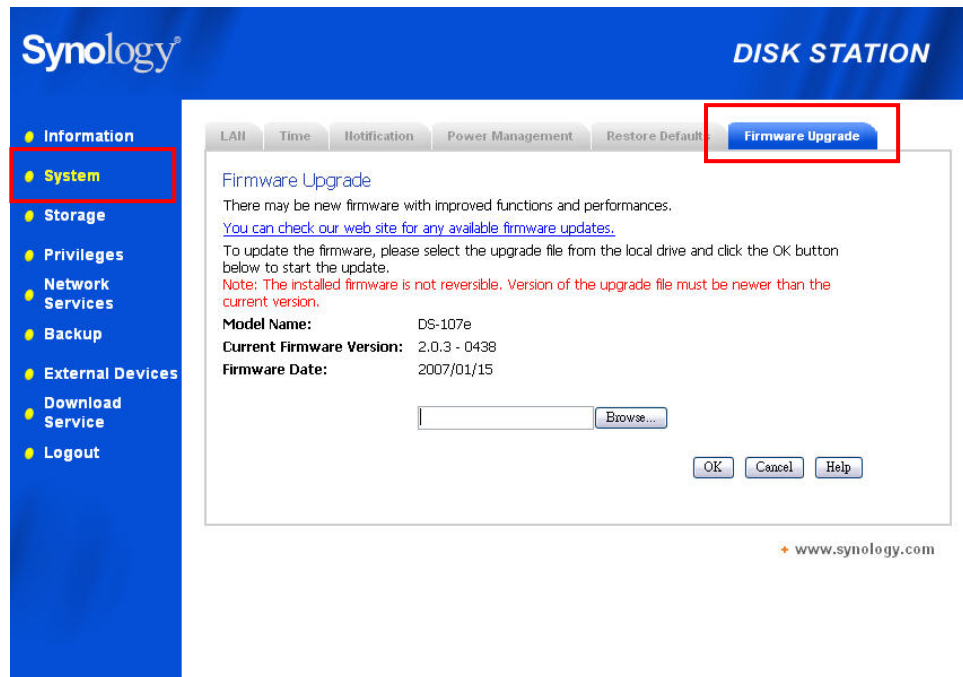
Mail Notification

Administrator can enter email address on the page “System > Notification”. Synology Server will send email to the address whenever an important event occurs to notify Administrator.



Firmware Update

To keep your Synology Server up to date, Administrator can go to “System > Firmware Upgrade” page to upgrade firmware.



Note: Normally, upgrading the firmware of the Synology server will not affect data on the Synology server. However, to ensure data security, it is recommended that you back up your data before update.

Expanding HDD Capacity

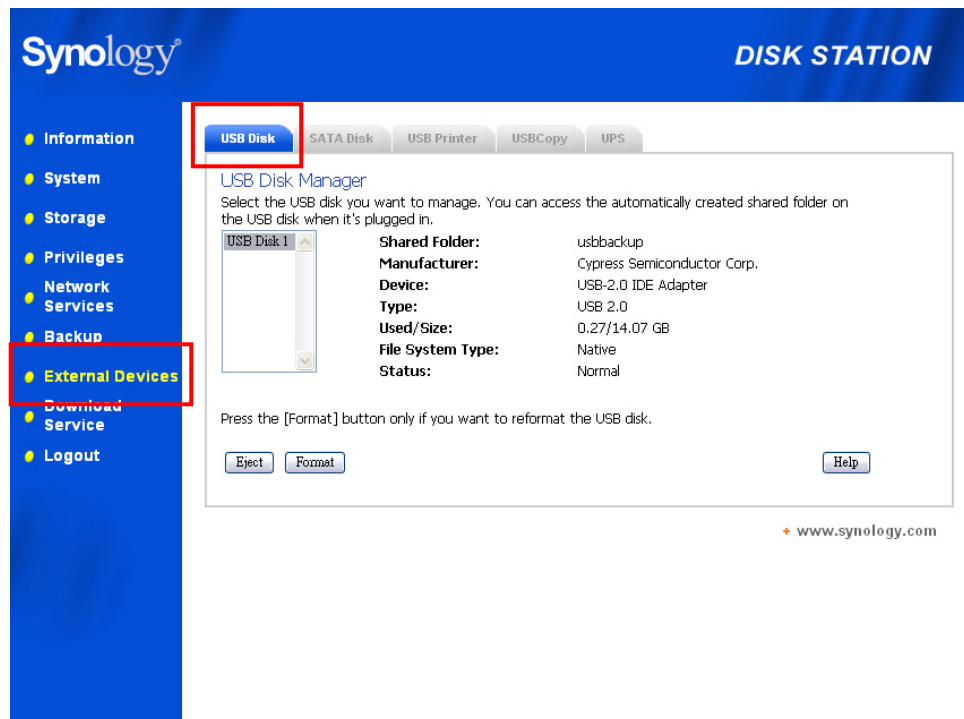
Administrator can expand HDD capacity by connecting external HDD, or replacing a larger capacity internal HDD.

External HDD

External USB HDD

When connecting an external USB HDD to Synology Server's USB port, "usbshare1" shared folder will be created automatically. Upon disconnecting external USB HDD, the shared folder will be removed. For more than 1 external USB HDD is connected, "usbshare2", "usbshare3" will be created accordingly.

To Eject or Format external USB HDD, go to the page "External Devices > USB Disk" of the Web Management UI.



External SATA HDD

When connecting an external SATA HDD to Synology Server's eSATA port, "satashare" shared folder will be created automatically. Upon disconnecting External SATA HDD, shared folder will be removed.

To Eject or Format external SATA HDD, go to the page "External Devices > eSATA Disk" of the Web Management UI.

Replacing Larger Internal HDD

When the internal HDD storage is run out, Administrator can follow the steps to replace a larger HDD and keep using the original data:

1. Replace the original internal HDD with a larger one.
2. Connect the original HDD to the USB/eSATA port.
3. Copy the data from the original HDD to the new HDD
4. Remove the original HDD.

Troubleshooting

For any questions about managing your Synology Server, please refer to the “Help” button at every page of the Web Management UI. For any questions other than that, please visit Synology Inc. website (www.synology.com) for further assistant.

Appendix

Recommended Peripherals

For recommended peripheral models, including hard drive, USB printer, DMA, and UPS, please visit www.synology.com.

Recommended NTP Server

The main purpose of Network Time Protocol (NTP) is for synchronizing clocks of computer system over data network. We have provided a few recommended NTP servers. For more information about NTP Server, please visit <http://www.eecis.udel.edu/~mills/ntp/servers.html>

Below are few recommended NTP server:

1. time.apple.com
2. time.asia.apple.com
3. time.euro.apple.com
4. time.nist.gov
5. time.windows.com

For more information, please refer to:
<http://ntp.isc.org/bin/view/Servers/WebHome>